

→

Approved for use through 10/31/2002. OMB 0551-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

[illegible]

Examiner Signature	<i>Deanne M. Gaudin</i>	Date Considered	10-20-04
--------------------	-------------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1. Unique citation designation number. 2. See attached Kinds of U.S. Patent Documents. 3. Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4. For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5. Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 6. Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND PAPER OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patent, Washington, DC 20231** Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Please type a plus sign (+) inside this box

OCT 13 2004



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for Form 449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 6

Complete if Known

Application Number	09/698,317
Filing Date	10/27/2000
First Named Inventor	Choi et al.
Group Art Unit	2834
Examiner Name	Dougherty, Thomas M.
Attorney Docket Number	PA09-06V02

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code* (if known)			
IMO	E1	4,070,116		Frosch et al.	01-24-1978	
	E2	4,600,309		Fay	07-15-1986	
	E3	4,848,911		Uchida et al.	07-18-1989	
	E4	5,074,667		Miyatake	12-24-1991	
	E5	5,148,036		Matsugu et al.	09-15-1992	
	E6	5,148,037		Suda et al.	09-15-1992	
	E7	5,151,754		Ishibashi et al.	09-29-1992	
	E8	5,179,863		Uchida et al.	01-19-1993	
	E9	5,376,810		Hoenk et al.	12-27-1994	
	E10	5,424,549		Feldman	06-13-1995	
	E11	5,670,415		Rust	09-23-1997	
	E12	5,743,998		Park	04-28-1998	
	E13	5,855,686		Rust	01-05-1999	
	E14	5,948,219		Rohner	09-07-1999	
	E15	6,035,805		Rust	03-14-2000	
TMO	E16	6,150,680		Eastman et al.	11-21-2000	
	E17	6,326,627	B1	Putvinski et al.	12-04-2001	
	E18	2002/0132482	A1	Chou	09-19-2002	
	E19	2002/0167117	A1	Chou	11-14-2002	
	E20	6,482,742	B1	Chou	11-19-2002	
	E21	6,534,418	B1	Plat et al.	03-18-2003	
	E22	6,541,360	B1	Plat et al.	04-01-2003	
	E23	2003/0081193	A1	White et al.	05-01-2003	
	E24	2003/0080471	A1	Chou	05-01-2003	
	E25	2004/0036201	A1	Chou et al.	02-26-2004	
	E26	5,468,542		Crouch	11-21-1995	
	E27	5,366,851		Novembre	11-22-1994	
	E28	5,362,606		Hartney et al.	11-08-1994	
	E29	5,324,683		Fitch et al.	06-28-1994	
	E30	5,212,147		Sheats	05-18-1993	
	E31	5,458,520		DeMercurio et al.	10-17-1995	
	E32	5,453,157		Jeng	09-26-1995	
	E33	5,439,766		Day et al.	08-08-1995	
	E34	5,431,777		Austin et al.	07-11-1995	
Examiner Signature	Thomas M. Dougherty				Date Considered	12-20-04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

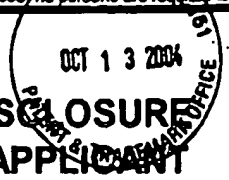
Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449A/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number		09/698,317	
		Filing Date		10/27/2000	
		First Named Inventor		Choi et al.	
		Group Art Unit		2834	
		Examiner Name		Dougherty, Thomas M.	
Sheet	2	of	6	Attorney Docket Number PA09-06V02	

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code* (if known)			
MD	E35	5,422,295		Choi et al.	08-08-1995	
	E36	5,421,981		Leader et al.	08-08-1995	
	E37	5,417,802		Obeng	05-23-1995	
	E38	5,380,474		Rye et al.	01-10-1995	
	E39	5,374,454		Bickford et al.	12-20-1994	
	E40	5,330,881		Sidman et al.	07-19-1994	
	E41	5,328,810		Lowrey et al.	07-12-1994	
	E42	5,318,870		Hartney	06-07-1994	
	E43	5,244,818		Jokerst et al.	09-14-1993	
	E44	5,242,711		DeNatale et al.	09-07-1993	
	E45	5,240,878		Fitzsimmons et al.	08-31-1993	
	E46	5,108,875		Thackeray et al.	04-28-1992	
	E47	5,053,318		Gulla et al.	10-01-1991	
	E48	4,964,945		Calhoun	10-23-1990	
	E49	4,908,298		Hefferon et al.	03-13-1990	
	E50	4,921,778		Thackeray et al.	05-01-1990	
	E51	4,919,748		Bredbenner et al.	04-24-1990	
	E52	3,783,520		King	01-08-1974	
	E53	6,776,094	B1	Whitesides et al.	08-17-2004	
	E54	5,169,494		Hashimoto et al.	12-08-1992	
	E55	5,173,393		Sezi et al.	12-22-1992	
	E56	5,736,424		Prybyla et al.	04-07-1998	
	E57	5,895,263		Carter et al.	04-20-1999	
	E58	6,150,231		Muller et al.	11-21-2000	
	E59	6,274,294	B1	Hines	08-14-2001	
	E60	6,489,068	B1	Kye	12-03-2002	
	E61	6,514,672	B2	Young et al.	02-04-2003	
	E62	6,561,706	B2	Singh et al.	05-13-2003	
	E63	6,565,928	B2	Sakamoto et al.	05-20-2003	
	E64	2003/011368	A1	Mancini et al.	06-19-2003	
	E65	6,646,662	B1	Nebashi et al.	11-11-2003	
	E66	6,677,252	B2	Marsh	01-13-2004	
	E67	6,703,190	B2	Elian et al.	03-09-2004	
	E68	6,730,256	B1	Bloomstein et al.	05-04-2004	
Examiner Signature	Thomas M. Dougherty				Date Considered	12-20-04

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

→ 

Approved for use through 10/31/2002. OMB 0851-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

1995, no persons are required to register.

DECLASSIFICATION
OCT 13 2004
APPLICANT

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

3

of

6

Complete if Known

Application Number	09/698,317
---------------------------	------------

Filing Date	10/27/2000
--------------------	------------

First Named Inventor	Choi et al.
-----------------------------	--------------------

Group Art Unit	2834
----------------	------

Examiner Name	Dougherty, Thomas M.
---------------	----------------------

Attorney Docket Number	PA09-06V02
------------------------	------------

U.S. PATENT DOCUMENTS

[illegible]

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

1995. No persons are required to register.

OCT 13 2004

SCLOSURE

APPLICANT

(use as many sheets as necessary)

4

01

6

Application Number	09/698,317
Filing Date	10/27/2000
First Named Inventor	Choi et al.
Group Art Unit	2834
Examiner Name	Dougherty, Thomas M.
Attorney Docket Number	PA09-06V02

[illegible]

Thomas M. Humphrey

12-20-04

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO		OCT 13 2004		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)				Application Number	09/698,317
				Filing Date	10/27/2000
				First Named Inventor	Choi et al.
				Group Art Unit	2834
				Examiner Name	Dougherty, Thomas M.
Sheet	5	of	6	Attorney Docket Number	PA09-06V02

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
TMD	E76	Abstract of Japanese Patent 63-138730	
TMD	E77	Abstract of Japanese Patent 55-88332	
TMD	E78	Abstract of Japanese Patent 57-7931	
TMD	E79	Abstract of Japanese Patent 02-92603.	
TMD	E80	Translation of Japanese Patent 02-92603.	
TMD	E81	Abstract of Japanese Patent 02-24848.	
TMD	E82	Translation of Japanese Patent 02-24848.	
TMD	E83	HEIDARI et al., "Nanoimprint Lithography at the 6 in. Wafer Scale," Journal of Vacuum Science Technology, Nov/Dec 2000, pp. 3557-3560, vol. B, no. 18(6)	
TMD	E84	NERAC.COM Retro Search, "Reduction of Dimension of Contact Holes", August 31, 2004	
TMD	E85	NERAC.COM Retro Search, "Trim Etching of Features Formed on an Organic Layer", September 2, 2004	
TMD	E86	NERAC.COM Retro Search, "Multi-Layer Resists", September 2, 2004	

Examiner Signature	<i>Thomas M. Dougherty</i>	Date Considered	12-20-04
--------------------	----------------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231

→

Approved for use through 10/31/2002. OMB 0851-0031
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

007. 1 3 87

Act of 1995, no persons are ver

027 13 2004

DISCLOSURE
BY APPLICANT

(use as many sheets as necessary)

Sheet	6	of	6
-------	---	----	---

Application Number	09/698,317
Filing Date	10/27/2000
First Named Inventor	Choi et al.
Group Art Unit	2834
Examiner Name	Dougherty, Thomas M.
Attorney Docket Number	PA09-06V02

[illegible]

Thomas M. Baughert

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231**

→ 

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

95, no persons are required

OCT 13 2004

CLOSURE

APPLICANT

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

1

of

3

Application Number	09/698,317
Filing Date	10/27/2000
First Named Inventor	Choi et al.
Group Art Unit	2834
Examiner Name	Dougherty, Thomas M.
Attorney Docket Number	PA09-06V02

[illegible]

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

→

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1996, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

99%, no persons are redacted

OCT 13 2004

SOLOSURE

TRADEMARK

APPLICANT

(use as many sheets as necessary)

2

of

3

Application Number	09/698,317
Filing Date	10/27/2000
First Named Inventor	Choi et al.
Group Art Unit	2834
Examiner Name	Dougherty, Thomas M.
Attorney Docket Number	PA09-06V02

[illegible]

Examiner Signature	Thomas M. Dunahut	Date Considered	12-20-04
-----------------------	-------------------	--------------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**

Please type a plus sign (+) inside this box



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	3	of	3
-------	---	----	---

Complete if Known

Application Number	09/698,317
Filing Date	10/27/2004
First Named Inventor	Choi et al.
Group Art Unit	2834
Examiner Name	Dougherty, Thomas M.
Attorney Docket Number	PA09-06V02

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

[illegible]

Examiner Signature	Thomas M. Rauscher	Date Considered	12-20-04
--------------------	--------------------	-----------------	----------

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with HIPAA 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231**